Amendments to the Claims:

1. (Currently Amended) A transcoder ~~for transcoding data comprising a group of macroblocks representing a frame of data, the transcoder~~ comprising:

a decoder ~~capable of decoding~~ configured to decode input data to thereby generate prediction error and decoded image data in a spatial domain, the input data comprising a group of macroblocks representing a frame of data;

a downsampler ~~capable of downsampling one of~~ configured to selectively downsample the prediction error ~~and~~ or the decoded image data in at least one of a first direction ~~and~~ or a second direction different than the first direction to generate a downsampled macroblock in the spatial domain; and

an encoder ~~capable of encoding~~ configured to encode the downsampled macroblock into output data.

2. (Currently Amended) A transcoder according to Claim 1, wherein the decoder comprises:

a variable-length decoder ~~capable of~~ configured to variable-length ~~decoding~~ decode input data to generate quantized Discrete Cosine Transform (DCT) coefficients;

an inverse quantizer ~~capable of~~ configured to inverse ~~quantizing~~ quantize the quantized DCT coefficients to generate DCT coefficients;

an inverse DCT-coder ~~capable of~~ configured to inverse ~~DCT-coding~~ DCT-code the DCT coefficients to generate the prediction error in the spatial domain; and

a summing element ~~capable of summing~~ configured to sum the residual blocks and motion compensation data to generate the decoded image data.

3. (Currently Amended) A transcoder according to Claim 1, wherein the decoder is ~~capable of decoding~~ configured to decode the input data at a reduced resolution.

4. (Currently Amended) A transcoder according to Claim 3, wherein the decoder ~~is capable of decoding~~ being configured to decode the input data further ~~including downsampling~~

includes being configured to downsample the input data, including the prediction error and the decoded image data, in the first direction, and wherein the downsampler is ~~capable of downsampling~~ configured to downsample one of the prediction error ~~and~~ or the decoded image data in the second direction in the spatial domain.

5.    (Currently Amended) A transcoder according to Claim 1 further comprising:
an intra/inter selector ~~capable of determining~~ configured to determine to pass to the downsampler and encoder one of the prediction error ~~and~~ or the decoded image data based upon at least one of coding, motion vectors ~~and~~ or residual energy of the macroblocks of the group of macroblocks.

6.    (Currently Amended) A transcoder according to Claim 1, wherein the encoder comprises:
a Discrete Cosine Transform (DCT)-coder ~~capable of DCT-coding~~ configured to DCT-code the downsampled macroblock into DCT coefficients in a DCT domain;
a quantizer ~~capable of quantizing~~ configured to quantize the DCT coefficients; and
a variable-length encoder ~~capable of~~ configured to variable-length ~~coding~~ code the DCT coefficients into output data.

7.    (Currently Amended) A transcoder according to Claim 1, wherein the frame of data comprises a plurality of sample lines each comprising a plurality of samples, and wherein the downsampler is ~~capable of downsampling~~ being configured to downsample one of the prediction error ~~and~~ or the decoded image data in the second direction ~~by skipping~~ includes being configured to one of skip one of a top ~~and~~ or a bottom field of the frame of data when the data comprises interlaced data, ~~and skipping~~ or skip every other sample line of the frame of data when the data comprises non-interlaced data.

8.    (Currently Amended) A transcoder according to Claim 1, wherein the frame of data comprises a plurality of sample lines each comprising a plurality of samples, and wherein

the downsampler ~~is capable of downsampling~~ being configured to downsample one of the prediction error ~~and~~ or the decoded image data in the first direction ~~by~~ includes being configured to one of ~~skipping~~ skip every other sample of each sample line of the frame of data ~~and averaging~~, or average every pair of neighboring samples of each sample line.

9.    (Currently Amended)  A transcoder ~~for transcoding data comprising a group of macroblocks representing a frame of data, the transcoder~~ comprising:

a reduced-resolution decoder ~~capable of decoding~~ configured to decode input data to thereby generate decoded image data at a reduced resolution and downsample the input data in a first direction, the input data comprising a group of macroblocks representing a frame of data;

a downsampler ~~capable of downsampling~~ configured to downsample the decoded image data in a second direction different than the first direction to generate a downsampled macroblock; and

an encoder ~~capable of encoding~~ configured to encode the downsampled macroblock into output data.

10.    (Currently Amended)  A transcoder according to Claim 9, wherein the decoder ~~capable of decoding~~ configured to decode input data to thereby generate the decoded image data in a spatial domain and a prediction error in the spatial domain, and wherein the downsampler is ~~capable of downsampling~~ configured to downsample one of the prediction error ~~and~~ or the decoded image data to generate the downsampled macroblock.

11.    (Currently Amended)  A transcoder according to Claim 10 further comprising:

an intra/inter selector ~~capable of determining~~ configured to determine to pass to the downsampler and encoder one of the prediction error ~~and~~ or the decoded image data based upon at least one of coding, motion vectors ~~and~~ or residual energy of the macroblocks of the group of macroblocks.

12.    (Currently Amended)  A transcoder according to Claim 9 further comprising:

a mixed block processor ~~capable of converting~~ <u>configured to convert</u> at least one of the macroblocks of the decoded image data from a first coding mode to a second coding mode before the downsampler downsamples the decoded image data.

Claims 13 – 20 (Cancelled)

21. (Currently Amended) ~~A system of~~ <u>An apparatus</u> ~~transcoding data comprising a group of macroblocks representing a frame of data, the system~~ comprising:

a ~~network entity capable of decoding~~ <u>processor configured to decode</u> input data to thereby generate <u>prediction error and</u> decoded image data at a reduced resolution and downsample the input data in a first direction, ~~,~~ <u>the input data comprising a group of macroblocks representing a frame of data,</u> wherein the ~~network entity~~ <u>processor</u> is also ~~capable of downsampling~~ <u>configured to downsample</u> <u>one of the prediction error or</u> the decoded image data in a second direction different than the first direction to generate a downsampled macroblock, and wherein the ~~network entity~~ <u>processor</u> is ~~capable of encoding~~ <u>configured to encode</u> the downsampled macroblock into output data.

22. (Currently Amended) ~~A system~~ <u>An apparatus</u> according to Claim 21, wherein the ~~network entity~~ <u>processor</u> is ~~capable of decoding~~ <u>configured to decode</u> input data to thereby generate the decoded image data in a spatial domain and a prediction error in the spatial domain, and wherein the ~~network entity~~ <u>processor</u> is ~~capable of downsampling~~ <u>configured to selectively downsample</u> one of the prediction error ~~and~~ <u>or</u> the decoded image data to generate the downsampled macroblock.

23. (Currently Amended) ~~A system~~ <u>An apparatus</u> according to Claim 22, wherein the ~~network entity~~ <u>processor</u> is further ~~capable of downsampling~~ <u>configured to downsample</u> and ~~encoding~~ <u>encode</u> one of the prediction error ~~and~~ <u>or</u> the decoded image data based upon at least one of coding, motion vectors ~~and~~ <u>or</u> residual energy of the macroblocks of the group of macroblocks.

24.    (Currently Amended)  ~~A system~~ An apparatus according to Claim 21, wherein the ~~network entity~~ processor is further ~~capable of converting~~ configured to convert at least one of the macroblocks of the decoded image data from a first coding mode to a second coding mode before the downsampling the decoded image data.

25.    (Currently Amended)  A method ~~of transcoding data comprising a group of macroblocks representing a frame of data, the method~~ comprising:

decoding input data including a group of macroblocks representing a frame of data, wherein decoding input data comprises generating prediction error and decoded image data in a spatial domain;

selectively downsampling ~~one of~~ the prediction error ~~and~~ or the decoded image data in at least one of a first direction ~~and~~ or a second direction different than the first direction, wherein downsampling comprises downsampling in the spatial domain to generate a downsampled macroblock in the spatial domain; and

encoding the downsampled macroblock into output data.

26.    (Original)  A method according to Claim 25, wherein decoding input data comprises:

variable-length decoding input data to generate quantized Discrete Cosine Transform (DCT) coefficients;

inverse quantizing the quantized DCT coefficients to generate DCT coefficients;

inverse DCT-coding the DCT coefficients to generate the prediction error in the spatial domain; and

summing the residual blocks and motion compensation data to generate the decoded image data.

27.    (Original)  A method according to Claim 25, wherein decoding input data comprises decoding input data at a reduced resolution.

28.    (Currently Amended) A method according to Claim 27, wherein decoding input data further comprises downsampling the input data, including the prediction error and the decoded image data, in the first direction, and wherein downsampling comprises downsampling one of the prediction error ~~and~~ or the decoded image data in the second direction in the spatial domain.

29.    (Currently Amended) A method according to Claim 25 further comprising:
determining to downsample and encode one of the prediction error ~~and~~ or the decoded image data based upon at least one of coding, motion vectors ~~and~~ or residual energy of the macroblocks of the group of macroblocks.

30.    (Original) A method according to Claim 25, wherein encoding the downsampled macroblock comprises:
Discrete Cosine Transform (DCT)-coding the downsampled macroblock into DCT coefficients in a DCT domain;
quantizing the DCT coefficients; and
variable-length coding the DCT coefficients into output data.

31.    (Currently Amended) A method according to Claim 25, wherein the frame of data comprises a plurality of sample lines each comprising a plurality of samples, and wherein downsampling one of the prediction error ~~and~~ or the decoded image data in the second direction comprises one of skipping one of a top ~~and~~ or a bottom field of the frame of data when the data comprises interlaced data, ~~and~~ or skipping every other sample line of the frame of data when the data comprises non-interlaced data.

32.    (Currently Amended) A method according to Claim 25, wherein the frame of data comprises a plurality of sample lines each comprising a plurality of samples, and wherein downsampling one of the prediction error ~~and~~ or the decoded image data in the first direction

comprises one of skipping every other sample of each sample line of the frame of data ~~and~~, or averaging every pair of neighboring samples of each sample line.

33.    (Currently Amended)  A method ~~of transcoding data comprising a group of macroblocks representing a frame of data, the method~~ comprising:

decoding input data to thereby generate prediction error and decoded image data at a reduced resolution and downsample the input data in a first direction, the input data comprising a group of macroblocks representing a frame of data;

downsampling one of the prediction error or the decoded image data in a second direction different than the first direction to generate a downsampled macroblock; and

encoding the downsampled macroblock into output data.

34.    (Currently Amended)  A method according to Claim 33, wherein decoding input data comprises decoding input data to thereby generate the decoded image data in a spatial domain and a prediction error in the spatial domain, and wherein downsampling the decoded image data comprises selectively downsampling one of the prediction error ~~and~~ or the decoded image data to generate the downsampled macroblock.

35.    (Currently Amended)  A method according to Claim 34 further comprising:

determining to downsample and encode one of the prediction error ~~and~~ or the decoded image data based upon at least one of coding, motion vectors ~~and~~ or residual energy of the macroblocks of the group of macroblocks.

36.    (Original)  A method according to Claim 33 further comprising:

converting at least one of the macroblocks of the decoded image data from a first coding mode to a second coding mode before downsampling the decoded image data.

37.    (Currently Amended)  A computer program product ~~for transcoding data comprising a group of macroblocks representing a frame of data, the computer program product~~

comprising a computer-readable storage medium having computer-readable program code portions stored therein, the computer-readable program code portions comprising:

a first executable portion for decoding input data including a group of macroblocks representing a frame of data, wherein the first executable portion is adapted to generate prediction error and decoded image data in a spatial domain;

a second executable portion for selectively downsampling one of the prediction error and or the decoded image data in at least one of a first direction and or a second direction different than the first direction, wherein the second executable portion is adapted to downsample in the spatial domain to generate a downsampled macroblock in the spatial domain; and

a third executable portion for encoding the downsampled macroblock into output data.

38. (Original) A computer program product according to Claim 37, wherein the first executable portion is adapted to variable-length decode input data to generate quantized Discrete Cosine Transform (DCT) coefficients, inverse quantize the quantized DCT coefficients to generate DCT coefficients, inverse DCT-code the DCT coefficients to generate the prediction error in the spatial domain, and thereafter sum the residual blocks and motion compensation data to generate the decoded image data.

39. (Original) A computer program product according to Claim 37, wherein the first executable portion is adapted to decode the input data at a reduced resolution.

40. (Currently Amended) A computer program product according to Claim 39, wherein the first executable portion is further adapted to downsample the input data, including the prediction error and the decoded image data, in the first direction, and wherein the first executable portion is adapted to downsample one of the prediction error and or the decoded image data in the second direction in the spatial domain.

41. (Currently Amended) A computer program product according to Claim 37 further comprising:

a fourth executable portion for determining to downsample and encode one of the prediction error ~~and~~ or the decoded image data based upon at least one of coding, motion vectors ~~and~~ or residual energy of the macroblocks of the group of macroblocks.

42.    (Original)  A computer program product according to Claim 37, wherein the third executable portion is adapted to Discrete Cosine Transform (DCT)-code the downsampled macroblock into DCT coefficients in a DCT domain, quantize the DCT coefficients, and thereafter variable-length code the DCT coefficients into output data.

43.    (Currently Amended)  A computer program product according to Claim 37, wherein the frame of data comprises a plurality of sample lines each comprising a plurality of samples, and wherein the second executable portion is being adapted to downsample one of the prediction error ~~and~~ or the decoded image data in the second direction ~~by~~ includes being adapted to one of ~~skipping~~ skip one of a top ~~and~~ or a bottom field of the frame of data when the data comprises interlaced data, ~~and skipping~~ or skip every other sample line of the frame of data when the data comprises non-interlaced data.

44.    (Currently Amended)  A computer program product according to Claim 37, wherein the frame of data comprises a plurality of sample lines each comprising a plurality of samples, and wherein the second executable portion is being adapted to downsample one of the prediction error ~~and~~ or the decoded image data in the first direction ~~by~~ includes being adapted to one of ~~skipping~~ skip every other sample of each sample line of the frame of data ~~and averaging~~, or average every pair of neighboring samples of each sample line.

45.    (Currently Amended)  A computer program product ~~for transcoding data comprising a group of macroblocks representing a frame of data, the computer program product~~ comprising a computer-readable storage medium having computer-readable program code portions stored therein, the computer-readable program code portions comprising:

a first executable portion for decoding input data to thereby generate <u>prediction error and</u> decoded image data at a reduced resolution and downsample the input data in a first direction<u>, the input data comprising a group of macroblocks representing a frame of data</u>;

a second executable portion for downsampling <u>one of the prediction error or</u> the decoded image data in a second direction different than the first direction to generate a downsampled macroblock; and

a third executable portion for encoding the downsampled macroblock into output data.

46.     (Currently Amended) A computer program product according to Claim 45, wherein the first executable portion is adapted to decode input data to thereby generate the decoded image data in a spatial domain and a prediction error in the spatial domain, and wherein the second executable portion is adapted to <u>selectively</u> downsample one of the prediction error ~~and~~ <u>or</u> the decoded image data to generate the downsampled macroblock.

47.     (Currently Amended) A computer program product according to Claim 46 further comprising:

a fourth executable portion for determining to downsample and encode one of the prediction error ~~and~~ <u>or</u> the decoded image data based upon at least one of coding, motion vectors ~~and~~ <u>or</u> residual energy of the macroblocks of the group of macroblocks.

48.     (Original) A computer program product according to Claim 45 further comprising:

a fourth executable portion for converting at least one of the macroblocks of the decoded image data from a first coding mode to a second coding mode before downsampling the decoded image data.

49.     (New) A transcoder according to Claim 1, wherein the downsampler is configured to downsample the prediction error or the decoded image data in an adaptively-selective manner.

50.     (New)  A method according to Claim 25, wherein downsampling the prediction error comprises downsampling the prediction error or the decoded image data in an adaptively-selective manner.

51.     (New)  A computer program product according to Claim 37, wherein the second executable portion is configured to downsample the prediction error or the decoded image data in an adaptively-selective manner.